REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-20 and 33-35 are presently active in this case, Claims 1, 4, 7, 9, 15, and 18 having been amended and Claims 34-35 having been added by way of the present Amendment.

In the outstanding Official Action, Claim 15 is objected to for a minor informality. Claim 15 has been amended to add the word "pressure" before the word "regulation" as suggested in the Official Action. Accordingly, the Applicants request the withdrawal of the objection to the Claim 15.

Claim 18 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Claims have been amended to clarify that a "first hermetic door" is being referred to in Claim 9 and that a "second hermetic door" is recited in Claim 18. Accordingly, the Applicants respectfully request the withdrawal of the indefiniteness rejection.

Claims 1, 5, 6, 9, 18, and 20 were rejected under 35 U.S.C. 102(b) as being anticipated by Iwai et al. (U.S. Patent No. 5,562,383). Claim 33 was rejected under 35 U.S.C. 102(b) as being anticipated by the '815 Tejima et al. reference (JP 10-99815). Claims 1-17 and 19-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over the '549 Tejima et al. reference (JP 9-248549) in view of Legille (U.S. Patent No. 3,907,261). For the reasons discussed below, the Applicants request the withdrawal of the art rejections.

The Applicants note that the amendment to Claim 1 set forth herein and the addition of the new Claim 34 have been made solely for the purpose of clearly explaining the difference between the cited references and the present invention, and the Applicants believe that, in principle, the original wording of Claim 1 is patentable without any amendments.

Regarding Claim 1, the Official Action indicates that "the wafer boat 106" in the Iwai reference corresponds to the "tube" in the present invention. However, the Applicants assert that, as clearly indicated in Figure 12 of the Iwai et al. reference, the end of the "wafer boat 106" which is inserted in to the "processing tube 101" is closed, unlike the present invention where the end of the "tube" that is inserted into the first opening of the first hermetic chamber has a "second opening."

Additionally, feature 106 of the Iwai et al. reference is a "wafer boat," therefore wafers are transferred to the "boat" by a wafer transfer mechanism 152 (column 21, lines 52-55) through an opening provided on a side of "the wafer boat 106" (i.e., perpendicular to the "processing tube 101"). To the contrary, in the present invention "the second opening" is located "on a side facing the first hermetic chamber" as recited in Claim 1.

Furthermore, the Official Action indicates that the Iwai et al. reference has an auto shutter 132 that is shielded from the process tube 101 by the wafer boat 106 when the wafer boat 106 is inserted into the opening of the process tube 101. However, the Applicants wish to point out that the wafer boat 106, as clearly evident from a review of Figure 12, has open sides that cannot shield the auto shutter 132 from the process tube 101 when the wafer boat 106 is inserted into the opening of the process tube 101. In the present invention, the hermetic door is "shielded" from the first hermetic chamber by the tube, which indicates that

the door is not exposed to the atmosphere inside the first hermetic chamber.

Since the Iwai et al. reference does not disclose all of the limitations recited in Claim 1, the Applicants respectfully request the withdrawal of the anticipation rejection of Claim 1.

Regarding Claim 33, the Applicants submit that the '815 Tejima et al. reference does not disclose all of the limitations recited therein. Claim 33 recites a treatment apparatus that comprises, among other features, a means for controlling the heating means and the reforming means so that the object to be treated is heated after the reforming means reaches a state capable of reforming the gaseous emission. The Applicants assert that the feature of the claimed invention reciting means for controlling that heats the object to be treated "after the reforming means reaches a state capable of reforming the gaseous emission" is patentably distinguishable over the invention described in the '815 Tejima et al. reference. Such a distinction is evident from a review of the description of a non-limiting embodiment of the present invention set forth on page 100, lines 4-19, of the specification, which reads as follows:

> When the gaseous emission is reformed by such a reforming unit 409, it is desirable to first exhaust the contents of the system by the exhaust system to make the reforming unit 409 reach a reforming temperature (in the case of reforming by heating), thereafter to regulate the temperature in the first hermetic chamber 401, and then to heat the object to be treated. Even when the reforming unit 409 performs reforming by glow discharge or plasma discharge or reforming by a catalyst, it is suitable to heat the object to be treated after the reforming unit reaches a state capable of performing reforming. By this structure, even the gaseous emission in the process of a rise in the temperature of the object to be treated can be reformed certainly. For example, when soil and burned fly ashes contaminated by organic halides such as dioxins are treated, dioxins (a solid, a liquid, a gas) are extracted or composed in the process of temperature rise form normal temperature to about 500°C. According to the treatment apparatus of the present invention, such a gaseous emission produced in the process of temperature rise also can be reformed certainly."

The Official Action notes that the '815 Tejima et al. reference does not disclose the

heating of an object to be treated after the reforming means reaches a state capable of reforming the gaseous emission.. However, the Official Action does not give weight to these limitations, and dismisses these limitations as statements of intended use. The Applicants note that this limitation is recited as part of a means-plus-function limitation, and thus should be given patentable weight. The Applicants submit that the '815 Tejima et al. reference does not disclose or even suggest a structure that performs such a function, and thus Claim 33 is not anticipated by the '815 Tejima et al. reference.

Regarding the obviousness rejection of Claim 1 based upon the '549 Tejima et al. and Legille references, the Applicants submit that the Legille reference does not teach a tube capable of inserting into a first opening of a first hermetic chamber, as recited in Claim 1. The Applicants wish to point out that the tubulure 17 of the Legille reference is inserted into the valve housing 2, however, it is not inserted in the furnace exhaust main 6. In addition, since the valve housing 2 communicates with the furnace exhaust main 6 in the Legille reference, the valve flap 7 is not shielded from either the valve housing 2 or the furnace exhaust main 6. However, as explained previously, Claim 1 of the present application recites that the hermetic door is "shielded" from the first hermetic chamber by the tube, which indicates that the door is not exposed to the atmosphere inside the first hermetic chamber. Therefore, the present invention greatly differs from the invention described in the Legille reference. Furthermore, the Official Action admits that the '549 Tejima et al. reference is silent as to the teaching of such a tube. Thus, neither of the cited references teaches a tube as recited in Claim 1, and therefore Claim 1 is not obvious in view of this combination of references.

The '549 Tejima et al. reference discloses that the partition 610 is capable of being opened and closed, however, the diagram is rather schematic as mentioned in the Official Action, and thus there is no clear disclosure of the position, structure and movement thereof. Nevertheless, the partition 610 in Figure 8 of the '549 Tejima et al. reference separates the "high temperature" processing chamber 601 and the "high temperature" recovery chamber 611, and from the disclosure it is understandable that the object to be processed 612 is transported to the recovery chamber 611.

Moreover, the Applicants assert that one of the characteristics of the invention described in the Legille reference is, as described in column 4, lines 14-25 of the specification, that "the inserted position of the tubulure 17 isolates the valve flap 7 and the sealing ring 8 from direct impingement of the furnace gas being vented," thus "the valve flap 7 is substantially protected against erosion, corrosion and deposits of the particulate matter entrained in the exhaust gases being vented."

Assuming, for the sake of argument, that the valve housing 2 of the Legille reference corresponds to the processing chamber 601 of the '549 Tejima et al. reference, the valve flap 7 is to be in a position "inside" the processing chamber 601 when the tubulure 17 is inserted therein, thus the valve flap 7 will not be protected. This is because the valve flap 7 comes to be directly affected by the environment inside the hermetic chamber (temperature, contamination, etc.). For example, since the processing chamber 610 of the '549 Tejima et al. reference is maintained at a very high temperature, the valve flap 7 of the Legille reference will be exposed to thermal stress, which diminishes the object of the Legille reference to protect the valve flap 7. Moreover, the inward movement of the valve flap 7 in the Legille

reference would interfere with the processing object 612 of the '549 Tejima et al. reference, which indicates that the combination thereof with the Legille reference is impossible. Therefore, Applicants assert that the combining the two citations is inappropriate.

Furthermore, assuming, for the sake of argument, that the collecting chamber 611 of the '549 Tejima et al. reference corresponds to the sealed housing 2 of the Legille reference, the processing chamber 611 of the '549 Tejima et al. reference is maintained at a very high temperature as is pointed out in the Official Action, which indicates that the valve flap 7 of the Legille reference will not be protected.

The tube of the present invention is inserted into the first opening of the first hermetic chamber (which presumptively corresponds to the furnace exhaust main 6 of the Legille reference). Then, in the present invention, the first hermetic door is shielded from the first hermetic chamber by the tube. However, even if the first hermetic chamber of the present invention is presumed to correspond to either one of the processing chamber 610 or the collecting chamber 612 of the '549 Tejima et al. reference, then the flap of the Legille reference that presumptively corresponds to the first hermetic door of the present invention will not be protected for the reasons described above. This is because the flap of the Legille reference opens to a side of the space where the tubulure is inserted and stays at that position. Therefore, the Applicants submit that it is impossible to combine the invention of the'549 Tejima et al. reference and the invention of the Legille reference to arrive at the structure of the present invention.

Accordingly, the Applicants respectfully request the withdrawal of the obviousness rejection of Claim 1.

Claims 2-20 are considered allowable for the reasons advanced for Claim 1 from which they depend. These claims are further considered allowable as they recite other features of the invention that are neither disclosed, taught, nor suggested by the applied references when those features are considered within the context of Claim 1.

Claim 33 was rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1, 3-6, 8, 9, and 11-21 of Teshima et al. (U.S. Patent No. 6,332,909).

Regarding the double patenting rejection of Claim 33 based upon the Teshima et al. reference, the Applicants consider that the present invention has a patentably distinguishable feature from the Teshima et al. reference for the reasons stated in the arguments presented above with regard to the anticipation rejection of Claim 33. More specifically, the Applicants respectfully submit that the cited claims do not recite or suggest a means for controlling the heating means and the reforming means so that the object to be treated is heated after the reforming means reaches a state capable of reforming the gaseous emission, as recited in Claim 33. The Applicants note that this limitation is recited as part of a means-plus-function limitation, and thus should be given patentable weight. The Applicants submit that the Teshima et al. reference does not claim or even disclose a structure that performs such a function.

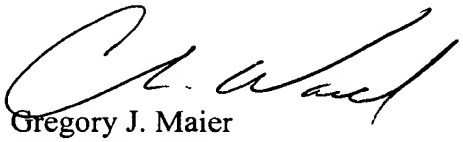
Accordingly, the Applicants respectfully request the withdrawal of the double patenting rejection of Claim 33 based upon Claims 1, 3-6, 8, 9, and 11-21 of U.S. Patent No. 6,332,909.

Newly added Claims 34 and 35 are considered allowable as they recite features of the invention that are neither disclosed nor suggested by the references of record.

Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully Submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Gregory J. Maier
Registration No. 25,599
Attorney of Record

Christopher D. Ward
Registration No. 41,367

22850

Customer Number 22850
Tel. (703) 413-3000
Fax. (703) 413-2220
(OSMMN 10/01)

GJM:CDW:brf
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